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PESTS OF CUCURBITS – 1. PUMPKIN BEETLE

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INTRODUCTION

Cucumbers, pumpkins, watermelons, zucchini (young marrows) and gourds are all cucurbits. Cucurbits belong to the family Cucurbitaceae. The pumpkin beetle will attack all cucurbits.

TAXONOMY[**]

Pumpkin beetles have been given the scientific name *Aulacophora*. Each species will attack several kinds of cucurbits. Therefore, for the purpose of this bulletin, they are all referred to as pumpkin beetles.

DESCRIPTION AND BIOLOGY

Pumpkin beetles are shiny beetles with hard elytra (wing cases). They are about 6 mm long. The colour varies from entirely yellow-orange to yellow-orange with black marks or black elytra (wing cases) to entirely black. Pumpkin beetles fly when disturbed.

The female lays eggs in the soil and when they hatch, the larvae (early stages) feed on plant roots. The fully grown larva turns into a pupa (resting stage) in the soil. The adult beetle emerges from the pupa, burrows to the surface and feeds on cucurbit plants.

ECONOMIC IMPORTANCE

The adult pumpkin beetle damages cucurbits. The beetles appear on the crop soon after the seeds germinate. They have often been seen feeding when only two or three leaves have formed. Pumpkin beetles

The pumpkin beetle, about 10 times natural size

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** *The science of describing and naming animals and plants. Here it means the scientific names given to pumpkin beetles.*

do the most damage when the plants are at this early stage of growth. When the plant starts to flower, the beetles will also feed on the flowers. If many pumpkin beetles are present, they can destroy an entire crop of cucurbit plants.

CONTROL

Chemical control

For pumpkins and gourds, chemical control is not necessary.

For cucumbers and melons grown on a large scale it is sometimes necessary to spray young plants, to control the heavy damage caused by these beetles. One spray of 0.2% carbaryl 7 days after germination and a second 10 days later should prevent serious damage to the crop.

To make a 0.2% carbaryl solution, mix together:

EITHER

40 ml Sevin 75%
15 litres water

or 40 ml Septene 75%
15 litres water

or 40 ml Sevimol 75%
15 litres water

OR

60 ml Sevin 50%
15 litres water

or 60 ml Septene 50%
15 litres water

or 60 ml Sevimol 50%
15 litres water

You should not harvest the crop until at least 3 days after the last spray. This 3 days is known as the waiting period.

Once the plants are growing strongly, no more sprays to control the beetle are needed.

FURTHER READING

Hill, D. (1975). *Agricultural Insect Pests of the Tropics and Their Control.* Cambridge University Press. 516 pp.

Kranz, J., Schumtterer, H. & Koch, W. (1977). *Diseases, Pests and Weeds in Tropical Crops.* Verlag Paul Parey: Berlin and Hamburg. 666 pp.

Purseglove, J.W. (1968). *Tropical Crops; Dicotyledons.* Longmans, London.

Sutherland, J.A. (1983). *Safe and Efficient Use of Pesticides.* Rural Development Handbook No. 18. D.P.I., Konedobu.

FURTHER INFORMATION

Further information on pumpkin beetles and other insect pests of cucurbits can be obtained by contacting your nearest D.P.I. entomologist. Entomologists are based at:

PORT MORESBY
D.P.I., P.O. Box 417, KONEDOBU
Tel: 214699 Ext 255

LAE
Bubia Agriculture Research Centre
P.O. Box 1693 LAE
Tel: 424933

MOUNT HAGEN
Kuk Agricultural Research Station.
P.O. Box 339, MOUNT HAGEN
Tel: 551377

KIMBE
P.N.G. Oil Palm Research Station,
P.O. Box 165, KIMBE
Tel: 935204

RABAUL
Lowlands Agricultural Experiment Station,
P.O. Keravat, E.N.B.P.
Tel: 926251

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(Illustrations: Michelle Kelly)